CLAIMS:

1.   A secure electronic registration and voting system providing access to voting related subsystems and processes through a network, the secure electronic registration and voting system comprising:

a central hosting facility connected to the network, the central hosting facility including a home page as an access point, an application processing segment for providing election processing, and a storage segment for temporary and persistent storage of data; and

a computing device connected to the network for accessing the central hosting facility.

2.   The secure electronic registration and voting system of claim 1, wherein the computing device further comprises a local election office application processing segment for providing election processing at a local election office.

3.   The secure electronic registration and voting system of claim 1, wherein the central hosting facility further comprises:

a first firewall between the network and the home page for protecting the central hosting facility from unauthorized access from the network; and

a second firewall between the home page and the processing segment providing additional protection from unauthorized access to the central hosting facility.

4.   The secure electronic registration and voting system of claim 1, wherein the home page further comprises a home page and common services element.

5.   The secure electronic registration and voting system of claim 4, wherein the home page and common services element further comprises:

        presentation services;

        logging and auditing services;

        application integration services;

        common services;

        access control and authorization services; and

        data access services.

6.   The secure electronic registration and voting system of claim 1, wherein the application processing segment further comprises an identification and authentication process element.

7.   The secure electronic registration and voting system of claim 6, wherein the identification and authentication process element further comprises:

        on-line absentee voter application services;

        identity proofing services;

registration services;

registered user login services; and

roaming digital certificate and managed public key infrastructure

services.

8.   The secure electronic registration and voting system of claim 1,

wherein the application processing segment further comprises a voter registration

process element.

9.   The secure electronic registration and voting system of claim 8,

wherein the voter registration process element further comprises:

electronic voter registration services;

status checking services;

communications and transmittal of electronic absentee voter

application services;

secure messaging services;

voter registration verification and update services; and

voter registration database creation and maintenance services.

10.   The secure electronic registration and voting system of claim 1,

wherein the application processing segment further comprises a ballot definition

process element.

11.   The secure electronic registration and voting system of claim 10, wherein the ballot definition process element further comprises:

        balloting system interface services;

        ballot conversion services;

        ballot definition services; and

        ballot database creation and maintenance services.

12.   The secure electronic registration and voting system of claim 1, wherein the application processing segment further comprises a voting engine process element.

13.   The secure electronic registration and voting system of claim 12, wherein the voting engine process element further comprises:

        ballot generation services;

        ballot presentation services;

        vote casting and symmetric encryption services;

        vote review, change, and confirmation services;

        cast ballot database creation and maintenance services; and

        vote auditing services.

14.   The secure electronic registration and voting system of claim 1, wherein the application processing segment further comprises a ballot reconciliation and tabulation process element.

15.   The secure electronic registration and voting system of claim 14, wherein the ballot reconciliation and tabulation process element further comprises:

controlled login for local election office services;

ballot reconciliation services;

voter identification and ballot separation services;

cast ballot local election office database creation and maintenance

services;

download encrypted ballot to local election office services;

dual login and ballot decryption services;

cast ballot tabulation services;

cast ballot conversion services; and

auditing services.

16.   The secure electronic registration and voting system of claim 1, wherein the data storage segment further comprises physically separated storage space for each local election office using the secure electronic registration and voting system.

17.   The secure electronic registration and voting system of claim 1,

wherein the data storage segment further comprises logically separated storage

space for each local election office using the secure electronic registration and voting

system.

18.   A secure electronic registration and voting system providing access to

voting related subsystems and processes through a network, the secure electronic

registration and voting system comprising:

        a central hosting facility, including

                a system web server for housing a home page and web pages,

                a data storage device for storing local election office data, and

                an application processing segment providing the voting related

subsystems and processes, the application processing segment further including

                        an identification and authentication subsystem and

associated services for identity proofing and assigning a roaming digital certificate

to users and local election officials by the user or local election official submitting an

approved credential or retrieving, completing, and submitting an identity proofing

form,

                        a voter registration subsystem and associated processes

for registering a user to vote by completing an electronic application, digitally

signing the application with the assigned roaming digital certificate, and having the

application submitted electronically, wherein a local election official may review the

application, approve or deny the application, update the status of the application, and communicate the status of the application to the user,

a ballot creation subsystem and associated processes for creating a ballot definition file by an official of the local election office, transforming the ballot definition file to a standard format, validating the ballot by the local election official, and providing the ballot for use by the user,

a voting subsystem and associated processes for providing secure voting by identifying and authenticating a user that logs in to vote and request a ballot, retrieving the user's identification information and digital certificate, generating a ballot from the user's local election office ballot definition file, digitally signing the ballot, sending the ballot to the user, receiving from the user the completed ballot digitally signed with the user's roaming digital certificate, time stamping the ballot, encrypting the ballot with a user's symmetric key, and storing the encrypted ballot, transmitting a ballot summary to the user for confirmation, receiving confirmation, time stamping the ballot and encrypting the user's symmetric key with a local election office's public key, and storing the encrypted symmetric key and associated encrypted ballot in the local election office's electronic ballot box,

a ballot tabulation and reconciliation subsystem and associated processes for reconciling encrypted ballots, wherein ballot tabulation includes providing a local election office with a token and a tabulation computer and requiring one election official to login to the tabulation computer and a second

election official to login to the central hosting facility, separating voter identification information from the encrypted ballots and transferring the encrypted ballots to the tabulation computer, decrypting the ballots by decrypting the symmetric key associated with each ballot with the local election office's public key and decrypting each ballot with its associated symmetric key, and tabulating the decrypted ballots, and

a common services subsystem and associated processes; and

a computer for accessing the central hosting facility through the network.

19.   A method for identifying and authenticating a user through a secure electronic registration and voting system, comprising the steps of:

accessing the home page of the secure electronic registration and voting system;

determining the existence of the user's department of defense credential;

issuing a digital signature if the department of defense credential exists;

providing an electronic absentee voter application to the user; and

retrieving the completed electronic absentee voter application.

20.   A method for identifying and authenticating a user through a secure electronic registration and voting system, comprising the steps of:

accessing the home page of the secure electronic registration and voting system;

determining the existence of the user's department of defense credential;

determining the existence of the user's digital signature if the department of defense credential does not exist;

providing an electronic absentee voter application to the user if the digital signature exists; and

retrieving the completed electronic absentee voter application.

21.   A method for identifying and authenticating a user through a secure electronic registration and voting system, comprising the steps of:

accessing the home page of the secure electronic registration and voting system;

determining the existence of the user's department of defense credential;

determining the existence of the user's digital signature if no department of defense credential does not exist; and

providing an identity proofing form to the user if the user's digital signature does not exist.

22.   The method of claim 21, further comprising the steps of:

completing the identity proofing form by the user;

notarizing the identity proofing form; and

sending the identity proofing form to a verification entity.

23.   The method of claim 22, further comprising the steps of:

validating the identity proofing form by the verification entity; and

issuing a digital signature to the user.

24.   A method for registering a user to vote with the user's local election office through a secure electronic registration and voting system, comprising the steps of:

logging into the secure electronic registration and voting system by the user;

authenticating the user as a valid user;

completing an electronic application by the user;

signing the completed electronic application with a digital signature assigned to the user;

submitting the digitally signed electronic application;

storing the electronic application in a database on the secure electronic registration and voting system assigned to the user's local election office; and

notifying the user's local election office of the receipt of the user's completed electronic application.

25.   The method of claim 24, further comprising the step of checking the status of the electronic application.

26.   The method of claim 24, further comprising the step of sending a communication by the user's local election office.

27.   The method of claim 26, further comprising the step of reviewing a communication from the user's local election office.

28.   The method of claim 24, further comprising the step of reviewing the electronic application.

29.   The method of claim 24, wherein the step of reviewing the electronic application further comprises the steps of:

logging in to the secure electronic registration and voting system by an official of the local election office;

authenticating the official as an approved official from the local election office;

reviewing the user's electronic application by the local election office official;

approving the electronic application by the local election office official;

updating status information for the user in the database on the secure electronic registration and voting system assigned to the user's local election office; and

updating status information for the user in a local database.

30.   The method of claim 24, wherein the step of reviewing the electronic application further comprises the steps of:

logging in to the secure electronic registration and voting system by an official of the local election office;

authenticating the official as an approved official from the local election office;

reviewing the user's electronic application by the local election office official;

rejecting the electronic absentee voter application by the local election office official;

updating status information for the user in the database on the secure electronic registration and voting system assigned to the user's local election office; and

updating status information for the user in a local database.

31.   A method for creating a ballot for use on a secure electronic registration and voting system, comprising the steps of:

creating a ballot definition file;

storing the ballot definition file on the secure electronic registration and voting system;

transforming the ballot definition file;

storing the ballot definition file in a ballot definition database;

validating the content of the ballot by the local election office; and

submitting the ballot definition file to a voting engine.

32.   The method of claim 31, wherein the step of creating a ballot definition file further comprises the step of creating the ballot definition using a local election office ballot generation system.

33.   The method of claim 31, wherein the step of creating a ballot definition file further comprises the steps of:

logging in to the secure electronic registration and voting system; and

creating the ballot definition file with a ballot generation system of the secure electronic registration and voting system.

34.   The method of claim 31, wherein the step of validating the content of the ballot by the local election office further comprises the step of creating an audit record.

35.   The method of claim 31, wherein the step of validating the content of the ballot by the local election office further comprises the step of ballot proofing.

36.   A method for voting using a secure electronic registration and voting system, comprising the steps of:

    requesting a ballot by a user of the secure electronic registration and voting system;

    voting electronically by the user;

    securing the ballot by the secure electronic registration and voting system;

    reconciling the ballot; and

    tabulating the ballot by the user's local election office.

37.   The method of claim 36, wherein the step of requesting a ballot by a user of the secure electronic registration and voting system further comprises the steps of:

    logging into the registration and voting system by the user from the user's terminal;

identifying and authenticating the user as a valid user;

requesting a ballot by the user;

retrieving an identification number assigned to the user;

generating a ballot for the user; and

forwarding the ballot to the user's terminal.

38.   The method of claim 36, wherein the step of voting electronically by the user further comprises the steps of:

completing the ballot by the user;

digitally signing the completed ballot; and

submitting the completed and digitally signed ballot by the user.

39.   The method of claim 36, wherein the step of securing the ballot by the secure electronic registration and voting system further comprises the steps of:

storing the ballot in a database assigned to the user's local election office;

time stamping the submitted ballot;

encrypting the ballot;

transmitting a ballot summary to the user's terminal;

reviewing the ballot summary by the user;

confirming the ballot by the user;

time stamping the encrypted ballot;

encrypting the user's digital key;

storing the encrypted ballot and key in a ballot box assigned to the

user's local election office;

40.   The method of claim 36, wherein the step of reconciling the ballot

further comprises the steps of:

reconciling cast ballot and voters;

creating a voter history;

downloading the voter history by the local election office; and

storing the voter history in a local data store of the local election office.

41.   The method of claim 36, wherein the step of tabulating the ballot by

the user's local election office further comprises the steps of:

logging in to the secure electronic registration and voting system by

two or more local election officials;

separating voter identification from ballots stored in a ballot box

assigned to the local election office;

downloading the encrypted ballot and encrypted key by the user's local

election office;

decrypting the ballots;

tabulating the ballots; and

reporting the ballot results.